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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,303	02/28/2002	William L. Bowden	08935-257001	7607

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,303

Applicant(s)

BOWDEN ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 8-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This office communication is in reply to the amendment filed 06/13/05. Applicants have only overcome the 35 USC 103 rejection over Blasi et al'622; nevertheless, the remaining 35 USC 103 rejections have not yet been overcome. Refer to the abovementioned amendment for more details on applicant's rebuttal arguments. Therefore, the present claims are finally rejected over the same art as set forth infra and for the reasons of record:

Election/Restrictions

1. This application contains claims 8-17 drawn to an invention nonelected with traverse in Paper No. 12/08/03. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made:

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sloop US 2003/0186110 in view of Harrison et al 2001/0028871.

As for claims 1-5:

Sloop makes known lithium batteries having suitable or typical electrolytes containing lithium salts dissolved in a carbonate solvent or solvent mixture (SECTION 0026). Examples of lithium salts include LiTFSI and LiTFS (lithium trifluoromethanesulfonate) dissolved in solvents such as DME (dimethoxyethane) and propylene carbonate (SECTION 0026).

It is noted that in the absence of any electrochemical cell component/feature derived from and/or containing sodium (Na), the electrochemical cell must exhibit zero content of sodium (Na), that is to say, no sodium (Na) content at all. Thus, if both the active materials as well as suitable salts are selected from any material and/or salt except sodium (Na), the sodium (Na) content in the cell will be reduced to less than 600 ppm by weight. Thus, the sodium (Na) content is an inherent characteristic and/or property.

As to claims 6-7:

Sloop further teaches a lithium salt concentration of 1.2 M in a 1:1 solvent mixture. The 1:1 ratio is equivalent to 50 % by weight of each solvent (SECTION 0026). In this respect, it is noted that Sloop immediately envisages how to prepare specific solvent mixtures by using any combination of the examples of solvents for the lithium salt. Thus, Sloop teaches the specific

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solvent mixture (i.e. the weight content) with sufficient specificity and applicable to any possible permutations of mixed solvents.

Sloop discloses an electrochemical cell according to the foregoing aspects. However, Sloop does not expressly disclose the specific sodium content.

Harrison et al disclose methods for preparing high purity lithium carbonate which can be used to prepare battery-grade lithium metal (ABSTRACT). It is disclosed that high purity lithium carbonate is also required in the emerging technologies of lithium batteries including those using lithium ion and thin film polymer electrolyte-lithium metal (SECTION 0004). It is disclosed that high purity lithium-based components minimizes lithium's rapid reactions with such substances (SECTION 0005). *That is, such substances are impurities including Na.* In particular, Harrison et al disclose the production of lithium-based components such as lithium metal being ultra-pure having maximum impurities levels (ppm) of 100 Na or 190 Na (SECTION 0030).

Harrison et al discuss how impurities may affect the purity of lithium metal, and thus, affecting the performance of the electrochemical cell or adversely affecting the current efficiency of lithium cells (SECTION 0007); or being deleterious for the operation of the electrochemical cells (SECTION 0008). Harrison et al disclose the production of battery grade lithium metal for use in lithium ion batteries (SECTIONS 0029, 0015 & 0020).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to make the electrochemical cell of Sloop by having the specific sodium content of Harrison et al because Harrison et al clearly disclose that sodium impurities may affect the purity of lithium metal, and thus, affecting the performance of electrochemical cells; and/or adversely affecting the current efficiency of lithium cells; and/or being deleterious for the

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operation of the electrochemical cells. Furthermore, Harrison et al directly teach the production high-purity battery grade lithium metal for use in lithium ion batteries.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flandrois et al 5554462 in view of Harrison et al 2001/0028871.

Regarding claims 1-5:

Flandrois et al reveal a lithium rechargeable electrochemical cell (ABSTRACT). It is disclosed that the electrolyte is constituted by an organic solvent comprising a mixture of esters and/or ethers such as dimethoxyethane (DME) and esters selected from propylene carbonate (PC) among others (COL 4, lines 1-13). The solvents has dissolved therein a lithium salt selected from lithium trifluoromethanesulfonate and lithium trifluoromethanesulfonimide, among others (COL 4, lines 1-14).

It is noted that in the absence of any electrochemical cell component/feature derived from and/or containing sodium (Na), the electrochemical cell must exhibit zero content of sodium (Na), that is to say, no sodium (Na) content at all. Thus, if both the active materials as well as suitable salts are selected from any material and/or salt except sodium (Na), the sodium (Na) content in the cell will be reduced to less than 600 ppm by weight. Thus, the sodium (Na) content is an inherent characteristic and/or property.

On the subject of claim 6:

Flandrois et al further discuss an example wherein each cell includes an electrolyte composed of an organic solvent with was a mixture of 20 % by volume of PC and also containing DME in which the lithium salt was dissolved at a concentration of 1 mole/liter (1.0

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M) (EXAMPLE 9 or COL 10, lines 10-20). *Since Flandrois et al directly disclose the use of propylene carbonate (PC) within the claimed concentration/content, as well as the teaching of constituting the electrolyte by employing a mixture of esters and/or ethers such as dimethoxyethane (DME), it is thus understood that Flandrois et al implicitly shows the claimed weight percent. In this respect, it is also noted that Flandrois clearly envisages how to prepare specific solvent mixtures by using any combination of organic solvents comprising a mixture of esters and/or ethers. Thus, Flandrois teaches the specific solvent mixture (i.e. the weight content) with sufficient specificity no matter what are the specific solvents chosen from a variety of organic solvents comprising a mixture of esters and/or ethers.*

Flandrois et al discloses an electrochemical cell according to the foregoing aspects.

However, Flandrois et al does not expressly disclose the specific sodium content.

Harrison et al disclose methods for preparing high purity lithium carbonate which can be used to prepare battery-grade lithium metal (ABSTRACT). It is disclosed that high purity lithium carbonate is also required in the emerging technologies of lithium batteries including those using lithium ion and thin film polymer electrolyte-lithium metal (SECTION 0004). It is disclosed that high purity lithium-based components minimizes lithium's rapid reactions with such substances (SECTION 0005). *That is, such substances are impurities including Na.* In particular, Harrison et al disclose the production of lithium-based components such as lithium metal being ultra-pure having maximum impurities levels (ppm) of 100 Na or 190 Na (SECTION 0030).

Harrison et al discuss how impurities may affect the purity of lithium metal, and thus, affecting the performance of the electrochemical cell or adversely affecting the current efficiency of lithium cells (SECTION 0007); or being deleterious for the operation of the electrochemical

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cells (SECTION 0008). Harrison et al disclose the production of battery grade lithium metal for use in lithium ion batteries (SECTIONS 0029, 0015 & 0020).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to make the electrochemical cell of Flandrois et al by having the specific sodium content of Harrison et al because Harrison et al clearly disclose that sodium impurities may affect the purity of lithium metal, and thus, affecting the performance of electrochemical cells; and/or adversely affecting the current efficiency of lithium cells; and/or being deleterious for the operation of the electrochemical cells. Furthermore, Harrison et al directly teach the production high-purity battery grade lithium metal for use in lithium ion batteries.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sloop US 2003/0186110 in view of Boryta et al 2004/0005267.

As for claims 1-5:

Sloop makes known lithium batteries having suitable or typical electrolytes containing lithium salts dissolved in a carbonate solvent or solvent mixture (SECTION 0026). Examples of lithium salts include LiTFSI and LiTFS (lithium trifluoromethanesulfonate) dissolved in solvents such as DME (dimethoxyethane) and propylene carbonate (SECTION 0026).

It is noted that in the absence of any electrochemical cell component/feature derived from and/or containing sodium (Na), the electrochemical cell must exhibit zero content of sodium (Na), that is to say, no sodium (Na) content at all. Thus, if both the active materials as well as suitable salts are selected from any material and/or salt except sodium (Na), the sodium (Na)

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content in the cell will be reduced to less than 600 ppm by weight. Thus, the sodium (Na) content is an inherent characteristic and/or property.

As to claims 6-7:

Sloop further teaches a lithium salt concentration of 1.2 M in a 1:1 solvent mixture. The 1:1 ratio is equivalent to 50 % by weight of each solvent (SECTION 0026). *In this respect, it is noted that Sloop immediately envisages how to prepare specific solvent mixtures by using any combination of the examples of solvents for the lithium salt. Thus, Sloop teaches the specific solvent mixture (i.e. the weight content) with sufficient specificity and applicable to any possible permutations of mixed solvents.*

Sloop discloses an electrochemical cell according to the foregoing aspects. However, Sloop does not expressly disclose the specific sodium content.

Boryta et al disclose production of lithium compounds (TITLE) using integral processes for producing chemical and high purity grades of lithium materials (SECTION 0003). Boryta et al clearly divulge that it is desirable, from a commercial standpoint, to provide a source of lithium low in sodium content because sodium becomes reactive and potentially explosive in certain chemical processes, particularly those using lithium metals (SECTION 0004); and Boryta et al further discuss about the importance of minimizing the sodium content in the metals, in particular, to manufacture low sodium lithium metal suitable for battery applications (SECTION 0020). Above all, Boryta et al disclose the production of battery grade lithium metal containing less than 100 ppm sodium (SECTION 0022 & 0082).

Examiner's note: *it has been held that the term “about” allows for a magnitude (ppm weight) slightly above or below the claimed value, thus the ranges overlap. In re Woodruff 16*

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USPQ2d 1934 (See MPEP 2144.05 [R-1] Obviousness of Ranges). Thus, a prima facie case of obviousness exists as the claimed range overlaps a range disclosed by the prior art.

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to make the electrochemical cell of Sloop by having the specific sodium content of Boryta et al because Boryta et al clearly disclose the importance of producing high purity battery grade lithium materials because it is desirable, from a commercial standpoint, to provide a source of lithium low in sodium content because sodium becomes reactive and potentially explosive in certain chemical processes, particularly those using lithium metals. Namely, Boryta et al directly teach the relevance of minimizing the sodium content in the metals, in particular, to manufacture low sodium lithium metal suitable for battery applications and/or battery grade lithium metal materials.

With particular respect to the cell containing between about 100 and 1500 ppm by weight of sodium, it would have been obvious to one skilled in the art at the time the invention was made to make Sloop's electrochemical cell by having the specific sodium content because Boryta et al discloses battery grade lithium metal containing less than 100 ppm sodium and it has been held that the term "about" allows for a weight slightly above or below of 100 ppm, hence, the ranges overlap. In re Woodruff 16 USPQ2d 1934 (See MPEP 2144.05 [R-1] Obviousness of Ranges). Thus, a prima facie case of obviousness exists as the claimed range overlaps the range disclosed in the prior art.

Furthermore, it would also have been obvious to a skilled artisan at the time the invention was made to make Sloop's electrochemical cell by having the claimed sodium content because even though Boryta et al's sodium content does not overlap or lie inside the claimed weight, a

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prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metal Corp. of America v. Banner* 227 USPQ 773. Moreover, the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine a satisfactory and optimum sodium content or weight.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flandrois et al 5554462 in view of Boryta et al 2004/0005267.

Regarding claims 1-5:

Flandrois et al reveal a lithium rechargeable electrochemical cell (ABSTRACT). It is disclosed that the electrolyte is constituted by an organic solvent comprising a mixture of esters and/or ethers such as dimethoxyethane (DME) and esters selected from propylene carbonate (PC) among others (COL 4, lines 1-13). The solvents has dissolved therein a lithium salt selected from lithium trifluoromethanesulfonate and lithium trifluoromethanesulfonimide, among others (COL 4, lines 1-14).

It is noted that in the absence of any electrochemical cell component/feature derived from and/or containing sodium (Na), the electrochemical cell must exhibit zero content of sodium (Na), that is to say, no sodium (Na) content at all. Thus, if both the active materials as well as suitable salts are selected from any material and/or salt except sodium (Na), the sodium (Na) content in the cell will be reduced to less than 600 ppm by weight. Thus, the sodium (Na) content is an inherent characteristic and/or property.

On the subject of claim 6:

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Flandrois et al further discuss an example wherein each cell includes an electrolyte composed of an organic solvent with was a mixture of 20 % by volume of PC and also containing DME in which the lithium salt was dissolved at a concentration of 1 mole/liter (1.0 M) (EXAMPLE 9 or COL 10, lines 10-20). *Since Flandrois et al directly disclose the use of propylene carbonate (PC) within the claimed concentration/content, as well as the teaching of constituting the electrolyte by employing a mixture of esters and/or ethers such as dimethoxyethane (DME), it is thus understood that Flandrois et al implicitly shows the claimed weight percent. In this respect, it is also noted that Flandrois clearly envisages how to prepare specific solvent mixtures by using any combination of organic solvents comprising a mixture of esters and/or ethers. Thus, Flandrois teaches the specific solvent mixture (i.e. the weight content) with sufficient specificity no matter what are the specific solvents chosen from a variety of organic solvents comprising a mixture of esters and/or ethers.*

Flandrois et al discloses an electrochemical cell according to the foregoing aspects. However, Flandrois et al does not expressly disclose the specific sodium content.

Boryta et al disclose production of lithium compounds (TITLE) using integral processes for producing chemical and high purity grades of lithium materials (SECTION 0003). Boryta et al clearly divulge that it is desirable, from a commercial standpoint, to provide a source of lithium low in sodium content because sodium becomes reactive and potentially explosive in certain chemical processes, particularly those using lithium metals (SECTION 0004); and Boryta et al further discuss about the importance of minimizing the sodium content in the metals, in particular, to manufacture low sodium lithium metal suitable for battery applications (SECTION

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0020). Above all, Boryta et al disclose the production of battery grade lithium metal containing less than 100 ppm sodium (SECTION 0022 & 0082).

***Examiner's note:** it has been held that the term "about" allows for a magnitude (ppm weight) slightly above or below the claimed value, thus the ranges overlap. In re Woodruff 16 USPQ2d 1934 (See MPEP 2144.05 [R-1] Obviousness of Ranges). Thus, a prima facie case of obviousness exists as the claimed range overlaps a range disclosed by the prior art.*

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to make the electrochemical cell of Flandrois et al by having the specific sodium content of Boryta et al because Boryta et al clearly disclose the importance of producing high purity battery grade lithium materials because it is desirable, from a commercial standpoint, to provide a source of lithium low in sodium content because sodium becomes reactive and potentially explosive in certain chemical processes, particularly those using lithium metals. Namely, Boryta et al directly teach the relevance of minimizing the sodium content in the metals, in particular, to manufacture low sodium lithium metal suitable for battery applications and/or battery grade lithium metal materials.

With particular respect to the cell containing between about 100 and 1500 ppm by weight of sodium, it would have been obvious to one skilled in the art at the time the invention was made to make Flandrois et al's electrochemical cell by having the specific sodium content because Boryta et al discloses battery grade lithium metal containing less than 100 ppm sodium and it has been held that the term "about" allows for a weight slightly above or below of 100 ppm, hence, the ranges overlap. In re Woodruff 16 USPQ2d 1934 (See MPEP 2144.05 [R-1])

Obviousness of Ranges). Thus, a prima facie case of obviousness exists as the claimed range overlaps the range disclosed in the prior art.

Furthermore, it would also have been obvious to a skilled artisan at the time the invention was made to make Flandrois et al's electrochemical cell by having the claimed sodium content because even though Boryta et al's sodium content does not overlap or lie inside the claimed weight, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metal Corp. of America v. Banner* 227 USPQ 773. Moreover, the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine a satisfactory and optimum sodium content or weight.

Response to Arguments

5. Applicant's arguments with respect to the 35 USC 103 rejection over Blasi et al'622 have been fully considered and are persuasive. In this regard, applicants presented a statement setting forth that Blasi et al (its subject matter) and the present invention were, at the time of the present invention, both assigned to or subject to an obligation of assignment to the Gillette Company, thus, Blasi et al do not qualify as prior art for 103(a) purposes.

6. Applicant's arguments filed 06/13/05 have been fully considered but they are not persuasive.

7. The main contention of applicants' arguments is premised on the assertions that the prior art of record, as a whole, "*does not disclose or suggest any reason to limit the amount of sodium present in an electrochemical cell*", "*Nothing is suggested as to the sodium level of the entire*

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electrochemical cell, as claimed”, “Harrison discloses or suggest nothing about the sodium content of the remainder of the components of an electrochemical cell”, “Similarly, Boryta et al identify only the need for low sodium lithium metals for battery applications, without referencing any requirement that the remainder of the electrochemical cell be low in sodium”. However, this assertion is respectfully disagreed with. In this respect, the examiner likes to point out that both secondary references provide, disclose, teach, reveal, divulge or makes known reasons about why the Na (sodium) content should be reduced or minimized in certain chemical systems or processes. In particular:

i) Harrison et al’871 discloses: a) *“high purity lithium carbonate is also required in the emerging technologies of lithium batteries” (See paragraph 0004); and b) “The key to obtaining lithium of the grade required for lithium batteries is to use purified lithium materials to minimize lithium’s rapid reactions with substances” (See paragraph 0005).*

ii) Boryta et al’267 teach that: *“it is desirable, from a commercial standpoint, to provide a source of lithium low in sodium content because sodium becomes reactive and potentially explosive in certain chemical processes, particularly those using lithium metals” (See paragraph 0004); and Boryta et al further discuss about “the importance of minimizing the sodium content in the metals, in particular, to manufacture low sodium lithium metal suitable for battery applications” (See paragraph 0020).*

Hence, as seen above, both secondary references clearly disclose that reduction, removal and/or elimination (high purity) of Na is necessary to minimize lithium’s rapid reaction with such substance or simply because Na is highly reactive and potentially explosive. Thus, both secondary references offer the skilled artisan enough motivation to remove from or minimize

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sodium content in lithium-based systems; and since the present claims are directed to a lithium electrochemical cell per se (**←emphasis added**), the examiner strenuously contends that both secondary references (*i.e. Harrison et al'871 and Boryta et al'267*) are analogous art and thus, pertinent to the primary references and the field of applicant's endeavor, in general. In other words, the secondary references are clearly disclosing that it is highly recommended to reduce the concentration of sodium in lithium-based systems due to its reactivity. If applicants do not believe, from a chemical standpoint, that minimizing lithium's rapid reactions and/or avoiding potential explosions in lithium systems by lowering sodium content is a reasonable motivation to minimize or reduce sodium concentration or contents, thus, the examiner respectfully submit that applicants do not understand and completely overlook safety requirements and the desirability of providing a safe and chemically stable lithium-based system which minimizes any potential risk or harm to customers using it. For this reason, the examiner maintains herein his position that the secondary references provide a reasonable motivation to modify the primary references to reduce or lower the sodium content in the lithium environment of the disclosed electrochemical cells.

All in all, the examiner strongly disagrees with the position taken by the applicant that the secondary references do not expressly disclose reducing sodium content in electrochemical cells per se, as their teachings are somehow only applicable "*in the context of the preparation of specific components (e.g. cathode or lithium metals)*" but not in the context of preparing the electrochemical cell as a whole. Don't you think that those of ordinary skill in the art attempting to provide a fully functional lithium electrochemical cell would carefully look at the teachings of both Harrison et al'871 and Boryta et al'267 and would definitely consider their teachings about lithium reactivity and sodium content in an attempt to prevent unnecessary reactivity and/or

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dangerous explosion? Thus, the examiner reiterates his position that the teachings of Harrison et al'871 and Boryta et al'267 cannot be only segregated to specific components or elements, in fact, such teachings are totally extendable to any lithium-based system or any system/product using lithium as a primarily essential feature as instantly claimed (i.e. the lithium electrochemical cell).

8. Additionally, in response to applicant's argument that "*none of the references disclose or suggest any reason to limit the amount of sodium present in an electrochemical cell*", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art (*←emphasis added*).

See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

9. In further response to applicant's argument that "*none of the cited primary references recognize that the sodium content of a cell is either important or affects the performance of the cell*", the fact that applicant has recognized another advantage/disadvantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). However, this applicants' argument contradicts applicant intended invention of reducing the amount of sodium in an electrochemical cell. That is, this argument is irrelevant to the claimed subject matter because, as applicant is aware of, his ultimate intended invention is to reduce the sodium content in the electrochemical cell; in no way, applicant's invention is intended to add, aggregate or incorporate sodium in the electrochemical cell. Thus,

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applicant's arguments that the prior art of record must thus recognize the importance of using sodium is completely inapposite and out of place.

10. Applicant has argued that "*there is no indication in the primary references that the cell should be manufactured and/or handled in a certain way to provide the claimed sodium content*". Nevertheless, applicant is respectfully reminded that his ultimate intended invention is a lithium electrochemical cell per se, and not its method of manufacture or production. Thus, applicant's arguments concerning the lack of specific production/manufacturing steps add nothing to the patentability of the claimed product (i.e. the electrochemical cell) because what is given patentably consideration is the product itself and not the manner in which the product was made.

11. Regarding applicant's argument that "*there is also no indication in any of the primary references of where the cell components were purchased or whether they were provided to have a low sodium content*", since PTO does not have proper equipment to carry out such analytical tests and/or does not require applicants to provide such information about raw material sources or suppliers, the burden is shifted to the applicants to provide sound or objective evidence demonstrating that the primary references were/are originally intended to employ cell components having a higher lithium content.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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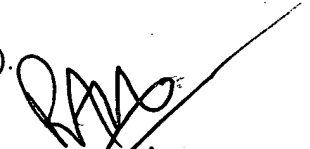
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro
Primary Examiner
Art Unit 1745


RAYMOND ALEJANDRO
PRIMARY EXAMINER